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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/759,999

01/16/2004

John Michael Page

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7590

08/28/2006

AGILENT TECHNOLOGIES, INC.

Legal Department, DL429

Intellectual Property Administration

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EXAMINER

LE, DIEU-MINH T

ART UNIT

PAPER NUMBER

2114

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/759,999

**Applicant(s)**

PAGE, JOHN MICHAEL

**Examiner**

Dieu-Minh Le

**Art Unit**

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

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**Part III DETAILED ACTION**

**Specification**

1. This Office Action is in response to the application 10/759,999 filed on 01/16/2004.

2. Claims 1-25 are presented for examination.

**Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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4. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vrhel, Jr. et al. (U.S. 6,560,726 hereafter referred to as Vrel) in view of Boucher (U.S. 7,069,543).

As per claims 1-2:

Vrhel substantially teaches the invention. Vrhel teaches:

- A method of monitoring an embedded system [abstract, fig. 2, col. 2, lines 17-56]; the method comprising:
  - identifying programs to be monitored [abstract, fig. 2, col. 2, lines 17-56];
  - specifying a remedial action to be taken in the event the identified program fails to check-in [fig. 2, col. 4, lines 41-59].
- program executing the remedial action [col. 4, lines 41-59].

Vrhel does not explicitly address:

- the time of the last check-in is greater (and less) than a current time minus the delta time.

However, Vrhel does disclose capability of:

- A method and system for integrated support (i.e., embedded system) for solving computer system problems via

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monitoring functionality [abstract, fig. 2, col. 2, lines 17-30; col. 9, lines 7-29] comprising:

- a watchdog timer and a monitor state machine used for monitoring and comparing the expected time among a predetermined time to a second point against elapsed time in supporting the system problem/resolution solving [ col. 4, lines 60 through col. 5, lines 17].

In addition, Boucher explicitly teaches:

- A method and system for software watchdog support including remedial actions [abstract, fig. 3, col. 1, lines 5-10, col. 9, line 55 through col. 10, line 3] comprising:
  - a watchdog time/heartbeat comparison in determining and supporting the computer system fault monitoring and problem solving [col. 1, lines 30-32; col. 8, lines 15-55].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to first realizing Vrhel's watchdog timer and a monitor state machine used for monitoring and comparing the expected time among a predetermined time to a second point against elapsed time in supporting the system problem/resolution solving as being the time of the last check-in is greater (and less) than a

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current time minus the delta time as claimed by Applicant. This is because Vrhel's automatic computer problem solving system explicitly performed failure identifying, monitoring, in-depth analyzing, and problem resolution (i.e., detection and recovery) via watchdog timing process (i.e., timing comparison and analysis). By utilizing these capabilities, the data computing processing system can be directed or redirected promptly and functioned properly during failure resolution process in supporting the system operation; second, by applying the watchdog time/heartbeat comparison in determining and supporting the computer system fault monitoring and problem solving means as taught by Boucher in conjunction with the method and system for integrated support (i.e., embedded system) for solving computer system problems via monitoring functionality as taught by Vrhel, the data computing within fault tolerant networking system can enhance its operation performance, more specifically to ensuring the error detected, corrected, and replaced (i.e., backup) in proper and efficient manner via its remedial and watchdog functionality.

This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so to improve the data computing, and/or fault-tolerant system operation availability and network/system performance therein

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with a mechanism to enhance the data connectivity, data debugging, data reliability, and data throughput which eventually will increase its performance, such as data throughput between internal and external devices.

As per claims 3-7:

Vrhel further teaches:

- first, second, and third remedial actions (i.e., corrective actions) comprise [col. 4, lines 41-59; col. 8, lines 1-8]:
  - restarting the system [abstract, fig. 2-3, col. 3, lines 18-30];
  - restarting the identified program [abstract, fig. 2-3, col. 3, lines 18-30];
  - halting (i.e., clearing and timing for rebooting) the system. [fig. 1-3, col. 4, lines 41 through col. 6, line 36; col. 9, lines 29 through col. 10, lines 27].
  - indicating that the system is no longer functional [fig. 1-3, col. 4, lines 41 through col. 6, line 36].

In addition, Boucher further teaches:

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- first, second, and third remedial actions (i.e., corrective actions) comprise [col. 9, lines 55 through col. 10, line 3]:
  - restarting the system [abstract, col. 9, lines 44-47];
  - restarting the identified program [abstract, col. 9, lines 44-47];
  - Halting the system. [fig. 4 and 8, col. 12, lines 4-15];
    - indicating that the system is no longer functional [fig. 4 and 8, col. 12, lines 4-15].

As per claims 8-9:

Vrhel further teaches:

- wherein indicating the system is no longer function comprises illuminating an indicator [col. 5, lines 19-36]:
- the remedial action comprises illuminating an indicator to indicate that the system is not functioning correctly [col. 5, lines 19-36]:

In addition, Boucher further teaches:

- first, second, and third remedial actions (i.e., corrective actions) comprise [col. 9, lines 55 through col. 10, line 3]:
  - restarting the system [abstract, col. 9, lines 44-47];

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-- restarting the identified program [abstract, col. 9, lines 44-47];

-- halting the system. [fig. 4, col. 12, lines 4-15];

-- indicating that the system is no longer functional [fig. 4, col. 12, lines 4-15].

As per claims 10-12:

Vrhel further teaches:

- registering each identified program by creating an entry containing an identifier of the identified program [abstract, fig. 2, col. 2, lines 17-56];
- the entry is a key in a registry associated with an operating system of the embedded (i.e., method and system for integrated support (i.e., Internet, embedded system) for solving computer system problems via monitoring functionality [abstract, fig. 2, col. 2, lines 17-30; col. 8, lines 29-32; col. 9, lines 7-29]) system [fig. 2, col. 4, lines 41-59].
- for each identified program creating a list of executable files which, when executed perform remedial actions; and creating a pointer, for each identified program, into each list which may be modified to point to individual entries in the list [col. 4, lines 41-59; col. 5, lines 5-36].

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Vrhel does not explicitly address:

- delta time for the identified program and an indication of the first remedial action.

However, Vrhel does disclose capability of:

- A method and system for integrated support (i.e., embedded system) for solving computer system problems via monitoring functionality [abstract, fig. 2, col. 2, lines 17-30; col. 9, lines 7-29] comprising:
  - a watchdog timer and a monitor state machine used for monitoring and comparing the expected time among a predetermined time to a second point against elapsed time in supporting the system problem/resolution solving [ col. 4, lines 60 through col. 5, lines 17].

In addition, Boucher explicitly teaches:

- A method and system for software watchdog support including remedial actions [abstract, fig. 3, col. 1, lines 5-10, col. 9, line 55 through col. 10, line 3] comprising:
  - a watchdog time/heartbeat comparison in determining and supporting the computer system fault monitoring and problem solving [col. 1, lines 30-32; col. 8, lines 15-55].

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- for each identified program creating a list of executable files which, when executed perform remedial actions; and creating a pointer, for each identified program, into each list which may be modified to point to individual entries in the list [col. 7, lines 1 thorough col. 8, lines 65].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to first realizing Vrhel's watchdog timer and a monitor state machine used for monitoring and comparing the expected time among a predetermined time to a second point against elapsed time in supporting the system problem/resolution solving as being the delta time for the identified program and an indication of the first remedial action as claimed by Applicant. This is because Vrhel's automatic computer problem solving system explicitly performed failure identifying, monitoring, in-depth analyzing, and problem resolution (i.e., detection and recovery) via watchdog timing process (i.e., timing comparison and analysis). By utilizing these capabilities, the data computing processing system can be directed or redirected promptly and functioned properly during failure resolution process in supporting the system operation; second, by applying the watchdog time/heartbeat comparison in determining and

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supporting the computer system fault monitoring and problem

solving means as taught by Boucher in conjunction with the method and system for integrated support (i.e., Internet and embedded system) for solving computer system problems via monitoring functionality as taught by Vrhel, the data computing within fault tolerant networking system can enhance its operation performance, more specifically to ensuring the error detected, corrected, and replaced (i.e., backup) in proper and efficient manner via its remedial and watchdog functionality. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so to improve the data computing system operation availability and memory/system performance.

As per claims 13-15:

Vrhel further teaches:

- remedial action comprises rebooting the system [abstract, fig. 2, col. 9, lines 29 through col. 10, lines 3];
- for each identified program, determining a number of times that rebooting as a remedial measure is acceptable [abstract, fig. 2, col. 2, lines 17-56; col. 9, lines 29 through col. 10, lines 3];

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- rebooted due to the failure of that identified program to check-in [col. 3, lines 7-21].
- halting (i.e., clearing and timing for rebooting) system operation when the number of times the system is rebooted due to the failure of an identified program to check-in exceeds the number determined for that identified program [col. 4, lines 41-59; col. 9, lines 29 through col. 10, lines 3].

Vrhel does not explicitly address:

- counters are reset based on a user specified condition .

However, Vrhel does disclose capability of:

- A method and system for integrated support (i.e., embedded system) for solving computer system problems via monitoring functionality [abstract, fig. 2, col. 2, lines 17-30; col. 9, lines 7-29] comprising:
  - a watchdog timer and a monitor state machine used for monitoring and comparing the expected time among a predetermined time to a second point against elapsed time in supporting the system problem/resolution solving [ col. 4, lines 60 through col. 5, lines 17].

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In addition, Boucher explicitly teaches:

- A method and system for software watchdog support including remedial actions [abstract, fig. 3, col. 1, lines 5-10, col. 9, line 55 through col. 10, line 3] comprising:
  - a watchdog time/heartbeat comparison in determining and supporting the computer system fault monitoring and problem solving via a COUNTER PROCESS [col. 1, lines 30-32; col. 8, lines 8-55].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to realize the both Vrhel's watchdog timer and a monitor state machine used for monitoring and comparing the expected time among a predetermined time to a second point against elapsed time in supporting the system problem/resolution solving and Boucher's the watchdog time/heartbeat comparison in determining and supporting the computer system fault monitoring and problem solving via a COUNTER PROCESS do teach such applicant's limitation. This is because Vrhel and Boucher specifically applied the watchdog process to perform the computer system monitoring and failure detection and correction. Therefore, the system and/or user settings can easily be reset and configured

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via counter feature so that certain system conditions can be monitored and detected for failure and/or corruption.

It is further obvious because by applying the watchdog via counter functionality, the system can enhance its operation performance, more specifically to ensuring the error monitored, detected, and corrected, in proper and efficient manner.

As per claims 16-24:

Due to the similarity of claims 16-24 to claims 1-15 except for an embedded system comprising capabilities of a watched program, a delta time in watched memory location, remedial actions including illuminating an indicator, restarting the system, halting the system, etc... instead of a method of monitoring an embedded system comprising monitored program, a delta time, remedial actions including illuminating an indicator, restarting the system, halting the system, etc...therefore, these claims are also rejected under the same rationale applied against claims 1-15. **In addition, all of the limitations have been noted in the rejection as per claims 1-15.**

As per claim 25:

Due to the similarity of claim 25 to claims 1-15 except for a headless (i.e., Vrhel, method and system for integrated support

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(i.e., Internet and embedded system) for solving computer system problems via monitoring functionality [abstract, fig. 2, col. 2, lines 17-30; col. 8, lines 29-32; col. 9, lines 7-29]) embedded system comprising capabilities of a watched program, a delta time in watched memory location, remedial actions, etc... instead of a method of monitoring an embedded system comprising monitored program, a delta time, remedial actions including illuminating an indicator, restarting the system, halting the system, etc...therefore, these claims are also rejected under the same rationale applied against claims 1-15. **In addition, all of the limitations have been noted in the rejection as per claims 1-15.**

### Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

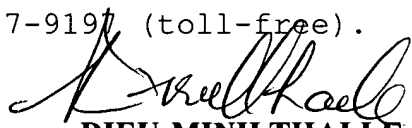
6. A shortened statutory period for response to this action is set to expired THREE (3) months, ZERO days from the date of this letter. Failure to respond within the period for response will cause the application to be abandoned. 35 U.S.C. 133.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dieu-Minh Le whose telephone number is (571) 272-3660. The examiner can normally be reached on Monday - Thursday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571)272-3644. The Tech Center 2100 phone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**DIEU-MINH THAI LE**  
**PRIMARY EXAMINER**  
**ART UNIT 2114**

DML  
8/20/2006